abcam

ab273050

Anti-CCR2/CD192 antibody [EPR20844-15]

Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050) is a rabbit monoclonal antibody detecting CCR2/CD192 in **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR20844-15
Purification technique	Affinity purification Protein A
Concentration	0.666 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Human, Transfected cell line - Mouse
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	1/600
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Human, Transfected cell line - Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat, Human, Transfected cell line - Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Transfected cell line - Mouse
Dilution info	1/250
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Transfected cell line - Mouse
Dilution info	-
Notes	-

Target data

See full target information CCR2/CD192

Function	Key functional receptor for CCL2 but can also bind CCL7 and CCL12 chemokines (PubMed:8631787, PubMed:8662823, PubMed:8996246). Its binding with CCL2 on monocytes and macrophages mediates chemotaxis and migration induction through the activation of the PI3K cascade, the small G protein Rac and lamellipodium protrusion (By similarity). Also acts as a receptor for the beta-defensin DEFB106A/DEFB106B (By similarity). Regulates the expression of T-cell inflammatory cytokines and T-cell differentiation, promoting the differentiation of T-cells into T-helper 17 cells (Th17) during inflammation (PubMed:28507030). Facilitates the export of mature thymocytes by enhancing directional movement of thymocytes to sphingosine-1-phosphate stimulation and up-regulation of S1P1R expression; signals through the JAK-STAT pathway to regulate FOXO1 activity leading to an increased expression of S1P1R (PubMed:29930553). Plays an important role in mediating peripheral nerve injury-induced neuropathic pain (PubMed:29993042). Increases NMDA-mediated synaptic transmission in both dopamine D1 and D2 receptor-containing neurons, which may be caused by MAPK/ERK-dependent phosphorylation of GRIN2B/NMDAR2B (PubMed:29993042). Mediates the recruitment of macrophages and monocytes to the injury site following brain injury (PubMed:24806994, PubMed:29632244).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Anti-CCR2 antibody [EPR20844-15] (ab273050) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt, ICC/IF, IHC-P, IP, WB in mouse, rat samples.

Anti-CCR2 antibody [EPR20844-15] (ab273050) has been cited over 17 times in peer reviewed journals and is trusted by the scientific community.

Abcam's high quality manufacturing and validation processes ensure Anti-CCR2 antibody [EPR20844-15] (ab273050) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

The specificity of Anti-CCR2 antibody [EPR20844-15] (ab273050) has been confirmed by testing in knockout samples.

Anti-CCR2 antibody [EPR20844-15] (ab273050) specifically detects CCR2 (UniProt ID: P51683; Molecular weight: 43kDa) and is sold in 100 µL and 1 mL selling sizes.

Conjugation-ready, carrier free format available for antibody clone EPR20844-15 - ab273061.

Antibody clone EPR20844-15 is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 488, Alexa Fluor® 647, Alexa Fluor® 594, APC (ab302579, ab302666, ab303469, ab314258).

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CCR2 also known as C-C chemokine receptor type 2 is a protein involved in immune cell trafficking. It is a member of the G-protein-coupled receptor family and has a molecular mass of approximately 43 kDa. CCR2 is primarily expressed on monocytes dendritic cells and certain subsets of T cells. It functions as a receptor for monocyte chemoattractant proteins (MCPs) with MCP-1 (CCL2) being the most well-known ligand. The interaction between CCR2 and its ligands directs the movement of these immune cells to sites of inflammation or tissue injury.
Biological function summary	CCR2 plays an important role in mediating leukocyte migration. It acts in the immune system to guide monocytes from the bloodstream into tissues contributing to immune surveillance and response. CCR2 operates not as part of a larger receptor complex but it does interact closely with other chemokine receptors which may influence its signaling. The receptor's activity has critical implications for inflammatory processes and lies at the heart of many immune responses.
Pathways	CCR2 is integrally involved in the chemokine signaling pathway and the inflammatory response pathway. Its function in these pathways highlights its role in modulating immune cell infiltration during immune challenges. The receptor also interfaces with other important signaling proteins such as CCR5 which like CCR2 is another chemokine receptor involved in mediating immune cell movement. These interactions overlap and complement each other offering nuanced regulation of immune cell dynamics.

Associated diseases and disorders	CCR2 has connections to conditions such as atherosclerosis and rheumatoid arthritis. In atherosclerosis the receptor's involvement in monocyte recruitment to the arterial wall is an important step in plaque formation. Its role in rheumatoid arthritis centers on the promotion of leukocyte infiltration into the joint tissues contributing to inflammation and joint damage. CCR2's connection to such disorders often aligns with a similar role played by other chemokine receptors like CCR5 highlighting its relevance in inflammation-related pathologies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

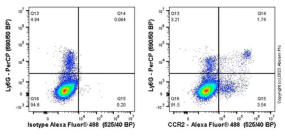
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

13 product images



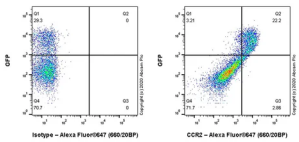
Flow Cytometry - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Flow Cytometry staining using rabbit Anti-CCR2/CD192 antibody

Flow cytometry staining of C57 BL/6 mouse splenocytes with ab273050 (right) or Rabbit monoclonal IgG (ab172730) (left). Cells were incubated for 30 min on ice in 1x PBS containing 10µg/ml anti CD16/CD32 and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody ab273050 or Rabbit monoclonal IgG (ab172730) (1x 10^6 in 100 µl at 1.0 µg/ml (1/644)) for 30min on ice. The cells were simultaneously stained with Ly6G.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min on ice.

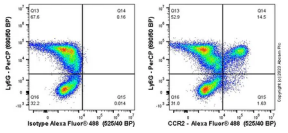
Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on viable cells.



Flow Cytometry - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Flow Cytometry staining using rabbit Anti-CCR2/CD192 antibody

Flow cytometric analysis of HEK-293T (human embryonic kidney epithelial cell) (transfected with GFP tagged mouse CCR2 overexpression construct) cells labelling CCR2 with ab273050 at 1/600 dilution (Right) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left). Goat anti rabbit IgG (Alexa Fluor® 647, ab150079) at 1/2000 dilution was used as the secondary antibody.
Gated on viable cells.



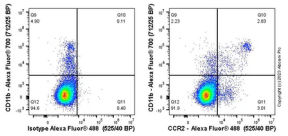
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CCR2/CD192 Flow Cytometry staining using rabbit Anti-CCR2/CD192 antibody

Flow cytometry staining of C57 BL/6 mouse bone marrow cells with ab273050 (right) or Rabbit monoclonal IgG (ab172730) (left). Cells were incubated for 30 min on ice in 1x PBS containing 10µg/ml anti CD16/CD32 and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody ab273050 or Rabbit monoclonal IgG (ab172730) (1x 10^6 in 100 µl at 0.2 µg/ml (1/3120)) for 30min on ice. The cells were simultaneously stained with Ly6G.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min on ice.

Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on viable cells.



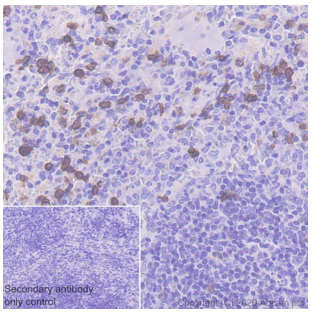
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CCR2/CD192 Flow Cytometry staining using rabbit Anti-CCR2/CD192 antibody

Flow cytometry staining of C57 BL/6 mouse splenocytes with ab273050 (right) or Rabbit monoclonal IgG (ab172730) (left). Cells were incubated for 30 min on ice in 1x PBS containing 10µg/ml anti CD16/CD32 and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody ab273050 or Rabbit monoclonal IgG (ab172730) (1x 106 in 100 µl at 1.0 µg/ml (1/644)) for 30min on ice. The cells were simultaneously stained with CD11b.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min on ice.

Acquisition of >30000 events were collected using a n/a. Events were gated on viable cells.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat spleen tissue using rabbit Anti-CCR2/CD192 antibody

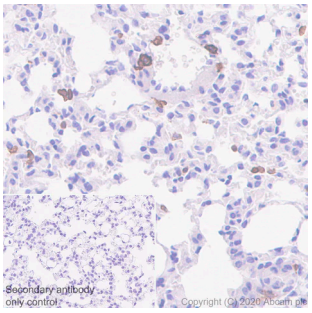
Immunohistochemical analysis of paraffin-embedded rat spleen tissue labeling CCR2 with ab273050 at 1/250 dilution.
Positive staining on rat spleen

The primary antibody was incubated for 30 mins at room temperature.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse lung tissue using rabbit Anti-CCR2/CD192 antibody

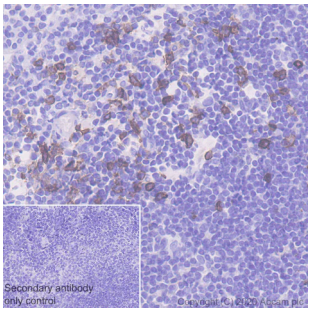
Immunohistochemical analysis of paraffin-embedded mouse lung tissue labeling CCR2 with ab273050 at 1/250 dilution.
Positive staining on mouse lung

The primary antibody was incubated for 30 mins at room temperature.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse spleen tissue using rabbit Anti-CCR2/CD192 antibody

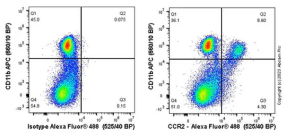
Immunohistochemical analysis of paraffin-embedded mouse spleen tissue labeling CCR2 with ab273050 at 1/250 dilution.
Positive staining on mouse spleen

The primary antibody was incubated for 30 mins at room temperature.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



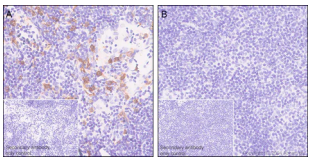
Flow Cytometry - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Flow Cytometry staining using rabbit Anti-CCR2/CD192 antibody

Flow cytometry staining of C57 BL/6 mouse bone marrow cells with ab273050 (right) or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (left). Cells were incubated for 30 min on ice in 1x PBS containing 10µg/ml anti CD16/CD32 and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody ab273050 or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (1x 106 in 100 µl at 0.2 µg/ml (1/12000)) for 30min on ice. The cells were simultaneously stained with CD11b.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min on ice

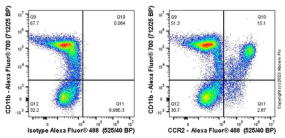
Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on viable cells.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CCR2/CD192 antibody

Immunohistochemical analysis of paraffin-embedded (A) Lymph node tissue from wild-type C57BL/6JGpt mice (B) Lymph node tissue from CCR2 knockout mice staining with ab273050 at 1/300 dilution and ready-to-use Goat Anti-Rabbit IgG H&L (HRP) secondary. Counterstaining with hematoxylin. Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins. Positive staining on (A) Lymph node tissue from wild-type C57BL/6JGpt mice and no staining on (B) Lymph node tissue from CCR2 knockout mice. The section was incubated with ab273050 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND™ RX instrument. The tissue samples were kindly provided by GemPharmatech. C57BL/6JGpt wildtype mice and CCR2-KO homozygous mice (Strain ID: T006112).



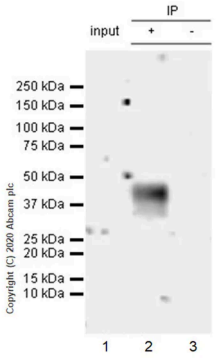
Flow Cytometry - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Flow Cytometry staining using rabbit Anti-CCR2/CD192 antibody

Flow cytometry staining of C57 BL/6 mouse bone marrow cells with ab273050 (right) or Rabbit monoclonal IgG (ab172730) (left). Cells were incubated for 30 min on ice in 1x PBS containing 10µg/ml anti CD16/CD32 and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody ab273050 or Rabbit monoclonal IgG (ab172730) (1x 10^6 in 100 µl at 0.2 µg/ml (1/3120)) for 30min on ice. The cells were simultaneously stained with Ly6G.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min on ice.

Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on viable cells.



Immunoprecipitation - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2 was immunoprecipitated from 0.35 mg Mouse lymph node tissue lysate with ab273050 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab273050 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/1000 dilution.
Lane 1: Mouse lymph node tissue lysate 10 ug.

Lane 2: ab273050 IP in Mouse lymph node tissue lysate.

Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab273050 in mouse lymph node tissue lysate.

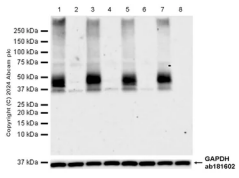
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 minutes.

All lanes:
Immunoprecipitation - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

Predicted band size: 42 kDa

Observed band size: 40 kDa



Western blot - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Western blot staining using rabbit Anti-CCR2/CD192 antibody

The tissue samples were kindly provided by GemPharmatech. C57BL/6JGpt wildtype mice and CCR2-KO homozygous mice (Strain ID: T006112).
All lanes:
Western blot - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050) at 1/1000 dilution

Lane 1:
Wild-type mouse spleen tissue lysate (male)

Lane 2:

CCR2 knockout mouse spleen tissue lysate (male)

Lane 3:
Wild-type mouse lung tissue lysate (male)

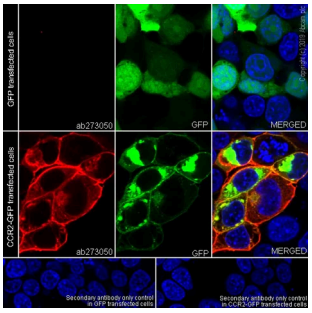
Lane 4:
CCR2 knockout mouse lung tissue lysate (male)

Lane 5:
Wild-type mouse spleen tissue lysate (female)

Lane 6:
CCR2 knockout mouse spleen tissue lysate (female)

Lane 7:
Wild-type mouse lung tissue lysate (female)

Lane 8:
CCR2 knockout mouse lung tissue lysate (female)



Immunocytochemistry/ Immunofluorescence - Anti-CCR2/CD192 antibody [EPR20844-15] (ab273050)

CCR2/CD192 Immunocytochemistry/ Immunofluorescence staining of 293T (Human embryonic kidney epithelial cell) transfected with GFP tagged mouse CCR2 overexpression construct using rabbit Anti-CCR2/CD192 antibody

Immunofluorescent analysis of 4% Paraformaldehyde fixed 0.1% Triton X-100 permeabilized 293T (Human embryonic kidney epithelial cell) transfected with GFP tagged mouse CCR2 overexpression construct labelling CCR2 with ab273050 at 1/250 dilution followed by ab150080 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) as secondary at 1/1000 (2 µg/ml) dilution. Confocal image showing membranous and cytoplasmic staining in HEK-293T cells transfected with with GFP tagged mouse CCR2 overexpression construct (shown in Red). GFP signals shown in Green. Nuclear DNA was labelled with DAPI (shown in blue).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.